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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,087	07/08/2003	Samuel David Conzone	SGT 32 C1	8304

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EXAMINER	
ROSSI, JESSICA	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/614,087	CONZONE ET AL.	
	Examiner	Art Unit	
	Jessica L. Rossi	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/28/05, Interview*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) *1-30 and 40-46* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 19-30, drawn to a method of bonding two phosphate glass surfaces, classified in class 156, subclass 99.

II. Claims 31-39, drawn to a process for the formation of a phosphate-based glass composite, classified in class 156, subclass 106.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are distinct method combinations. Each group relies on different elements for patentability not required by the other. Invention I requires the phosphorous solution to be aqueous, whereas Invention II does not (note Invention II only claims a phosphorous solution where the dictionary defines "solution" as "a homogeneous mixture of two or more substances, which may be solids, liquids, gases, or a combination of these"). Invention II requires applying the phosphorous solution to at least one of the glass surfaces and placing the glass surfaces into contact with each other, whereas Invention I does not.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Zelano on 3/9/05 a provisional election was made with traverse to prosecute the invention of Group II, claims 31-39. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19-30 are

withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Response to Amendment

6. Applicant's election with traverse of Group II in the reply filed on 2/28/05 in response to the original restriction requirement dated 1/28/05 is acknowledged. The traversal is on the ground(s) that the examiner has not demonstrated that an undue searching burden would be required in examining further subject matter. This is not found persuasive because the examiner did establish such a burden in paragraphs 2-4 of the restriction requirement mailed on 1/28/05.

The requirement is still deemed proper and is therefore made FINAL.

Priority

7. It is noted that parent application 09/430,885 has since issued as US PAT 6,652,972 and therefore Applicant is required to amend the specification accordingly.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 31-32 and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over von Bonin et al. (US 5543230) in view of JP 52-44834.

With respect to claim 31, von Bonin is directed to a process for making a phosphate-based glass composite (abstract). The reference teaches providing a first glass having a first surface and a second glass having a second surface (column 3, lines 14-25), processing the first and second surfaces to provide a bonding surface, providing an aqueous solution containing a phosphorous compound (column 1, lines 36-43), applying the solution to at least one of the first and second surfaces (column 3, lines 20-25; column 4, lines 48-51), placing the surfaces into contact with each other (column 3, lines 36-45; column 4, lines 48-51), and retaining the surfaces in contact until the surfaces are joined together while the composite cures (column 4, lines 48-58).

The reference is silent as to the first and second glass being phosphate-based glass.

It is known in the laminated glass art to provide an aqueous solution between two phosphate-based glass layers wherein the solution is cured to bond the layers together, as taught by JP '834 (abstract). Since von Bonin is not limited to any particular type of glass (column 3, lines 34-36), the examiner would have appreciated such not being critical to the invention and therefore would have been motivated to select glass material known in the laminated glass art for its ability to be bonded via an aqueous solution, such as phosphate glass, as taught by JP '834.

Regarding claim 32, the reference teaches such (column 4, lines 55-57).

Regarding claim 34, the reference teaches such (column 4, lines 55-57).

Regarding claims 35 and 37, the acts of grinding and/or polishing and/or cleaning a surface before applying a bonding agent thereto and/or bonding the surface to another surface is

well known and conventional in a the art of laminating a variety of surfaces, including glass, where such processing steps improve the adherence of the bonding agent and/or other surface to the polished or ground surface. Therefore, it would have been obvious to grind and/or polish and/or clean the glass surfaces of von Bonin because such processing steps are notoriously well known and conventional in the art for improving the adherence of the bonding agent and/or other surface to the polished or ground surface.

Regarding claim 36, selection of particular surface dimensions for the surface feature created by the polishing or grinding would have been within purview of the skilled artisan.

Regarding claim 38, the reference teaches such (column 4, lines 55-57).

Regarding claim 39, it would have been obvious to the skilled artisan to gradually raise the temperature because this prevents rapid heating, which can result in air/bubble formation between the layers.

10. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over von Bonin et al. and JP '834 as applied to claim 31 above, and further in view of Hentzelt et al. (US 4173668).

Regarding claim 33, von Bonin is silent as to applying vacuum while the composite cures. It is known in the laminated glass art to bond two glass layers 31, 33 having a phosphorous solution 32 between them where vacuum is applied during heating and pressing of the laminate, as taught by Hentzelt (Figure 4; column 1, lines 6-8; column 6, lines 9-20; column 7, lines 55-56; column 8, lines 43-50; claim 23).

Therefore, it would have been obvious to the skilled artisan at the time of the invention to apply vacuum to the composite of von Bonin while applying the heat and pressure that promotes

curing of the phosphate solution because such is known in the art, as taught by Hentzelt, where this removes any air trapped between the layers (Hentzelt; column 6, lines 9-13).

11. Claims 31-32, 34-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugahara et al. (US 4018616) in view of JP '834.

With respect to claim 31, Sugahara is directed to a process for making a phosphate-based glass composite (abstract; column 13, lines 61-65). The reference teaches providing a first glass having a first surface and a second glass having a second surface, processing the first and second surfaces to provide a bonding surface, providing an aqueous solution containing a phosphorous compound, applying the solution to at least one of the first and second surfaces, placing the surfaces into contact with each other, and retaining the surfaces in contact until the surfaces are joined together while the composite cures (column 4, lines 38-45; column 14, lines 12-31).

The reference is silent as to the first and second glass being phosphate-based glass.

It is known in the laminated glass art to provide an aqueous solution between two phosphate-based glass layers wherein the solution is cured to bond the layers together, as taught by JP '834 (abstract). Since Sugahara is not limited to any particular type of glass (column 13, lines 61-65), the examiner would have appreciated such not being critical to the invention and therefore would have been motivated to select glass material known in the laminated glass art for its ability to be bonded via an aqueous solution, such as phosphate glass, as taught by JP '834.

Regarding claim 32, the reference teaches such (column 14, lines 17-19 and 24-26).

Regarding claim 34, the reference teaches such (column 14, lines 17-19).

Regarding claims 35 and 37, the acts of grinding and/or polishing and/or cleaning a surface before applying a bonding agent thereto and/or bonding the surface to another surface is

well known and conventional in a the art of laminating a variety of surfaces, including glass, where such processing steps improve the adherence of the bonding agent and/or other surface to the polished or ground surface. Therefore, it would have been obvious to grind and/or polish and/or clean the glass surfaces of Sugahara because such processing steps are notoriously well known and conventional in the art for improving the adherence of the bonding agent and/or other surface to the polished or ground surface.

Regarding claim 36, selection of particular surface dimensions for the surface feature created by the polishing or grinding would have been within purview of the skilled artisan.

Regarding claim 39, it would have been obvious to the skilled artisan to gradually raise the temperature because this prevents rapid heating, which can result in air/bubble formation between the layers.

12. Claims 31-32, 34-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugahara et al. in view of von Bonin et al. and JP '834.

With respect to claim 31, it is noted the examiner interpreted the Sugahara reference to be teaching/suggesting the bonding of two glass surfaces. If such is not taken as so, it would have been obvious to the skilled artisan to bond two glass surfaces via the aqueous phosphorous solution of Sugahara because such is known in the laminated glass art, as taught by von Bonin (see paragraph 9 above for complete discussion).

Regarding claims 32, 34-37 and 39, see paragraph 11 above.

13. Claims 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugahara et al., von Bonin and JP '834 as applied to claim 31 above, and further in view of Hentzelt et al.

Regarding claims 33 and 38, Sugahara is silent as to applying vacuum while the composite cures and applying pressure to the glass surfaces. It is known in the laminated glass art to bond two glass layers 31, 33 having a phosphorous solution 32 between them where vacuum is applied during heating and pressing of the laminate, as taught by Hentzelt (Figure 4; column 1, lines 6-8; column 6, lines 9-20; column 7, lines 55-56; column 8, lines 43-50; claim 23).

Therefore, it would have been obvious to the skilled artisan at the time of the invention to apply vacuum to the composite of Sugahara followed by pressing during the heating of Sugahara because such is known in the art, as taught by Hentzelt, where vacuum removes any air trapped between the layers (Hentzelt; column 6, lines 9-13) and pressure expedites bonding between the layers.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 31-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 19-30 and 38 of U.S. Patent No. 6,652,972 in view of von Bonin et al. and/or Sugahara et al.

The claims of the US '972 patent teach all the limitations except applying the solution to at least one of the glass surfaces. The skilled artisan would have appreciated that the '972 patent claims state that the solution is in contact with both glass surfaces and therefore the solution would have to be applied to at least one surface before bonding the surfaces or by injecting the solution between the surfaces. It this is not taken as so, it would have been obvious to apply the solution to at least one of the surfaces because such is known in the laminated glass art, as taught by von Bonin and/or Sugahara.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica L. Rossi
Art Unit 1733